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Scheduling Vegetable Plantings for Continuous Harvest

Current Topic

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Market gardeners try to schedule their planting so they can offer their customers a continuous supply of fresh flowers, herbs, and vegetables throughout the growing season.

Dr. Craig Anderson (1), University of Arkansas Extension Vegetable Specialist, says the best approach to planning for a continuous harvest is to keep good production records from previous growing seasons, and to compare notes with local farmers. He adds that weather is a major variable, and growers need to pay attention to cool-season and warm-season effects on seedling establishment and crop growth.

Sweet corn, green beans, and other vegetable crops are often grown in successive plantings to prolong the harvest season. Dr. Charles Marr at Kansas State University says the best way to stagger sweet corn plantings is to wait until one crop is 1 to 2 inches tall before planting the next. He notes that sweet corn tends to emerge more slowly in cool soil (50–55°F) than in warm soil (68–77°F). Therefore, Marr tells farmers to plant standard sweet corn varieties early in the spring, followed by super-sweet varieties in successive plantings since the super-sweets don't perform as well in cool soil. Sowing sweet corn about one week before the average frost-free date is a rule of thumb for the very earliest plantings. On the tail end of the planting season, sweet corn planted after June will probably not mature prior to frost in eastern or central Kansas (2).

In addition to sequential plantings, farmers plant varieties that require different lengths of time to reach maturity. For example, some sweet corn varieties are bred to mature in 70 days, while others require 100 days.

A common way to schedule crops is to plan around the average annual frost-free date in the Spring, and the average annual first-freeze date in the Fall. Planting in accordance with optimum soil temperature is another common way. The table on the next page, *Soil Temperature Germination Ranges for Select Vegetables,* provides a quick summary.

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Soil Temperature Germination Ranges for Select Vegetables

TEMP. ° F	PLANT
45–85	**cabbage, kale, broccoli, collards** (germinate well at 85, seedlings prefer 45–65)
35–80	**lettuce and most salad greens** (at more than 80, germination rate drops 50%)
35–75	**spinach** (optimum 68)
50–85	**onions** (optimum 75)
45–95	**radishes** (optimum 85)
50–85	**beets, Swiss chard** (optimum 85)
60–85	**beans, snap & dry** (optimum 80)
70–85	**beans, lima** (optimum 85)
40–75	**peas** (optimum 75)
60–95	**corn** (optimum 95)
65–82	**tomatoes** (optimum 80)
60–95	**peppers** (optimum 85)
65–100	**cucumbers, melons, squash** (optimum 80–95)

From: *Market News*. March 1995.

Insect and disease occurrence is another major factor affecting production and harvest goals. In Northwest Arkansas, and elsewhere in the humid southeast, tomato growers often plant a spring and a fall tomato crop because the early plants succumb to disease in mid-summer. A market gardener in North Carolina reports that she sets out tomatoes three times during the growing season. She also notes that squash vine borer is so bad in summer squash that she only gets about two weeks of harvest from each planting.

A planting calendar from Southern Exposure Seed Exchange, geared to the Mid-Atlantic region, is enclosed as a planning tool you can adapt for your own region. Also enclosed are spreadsheets showing Dan Kaplan's greenhouse and field planting schedule for the 2000 growing season. Kaplan manages Brookfield Farm, a large CSA in Massachusetts, and teaches short courses on vegetable production several times a year.

Once you have a framework of *possible* planting dates, you can work out your plan for successive plantings. For my location, on the border between USDA Zones 6 and 7, I have worked out the following plan:

- Weekly or biweekly plantings of beets, lettuce, radishes, and onions (for green onions) in the spring; no planting mid-summer; one planting in the fall
- Biweekly or monthly plantings of bush beans, Southern peas, and summer squash
- Two plantings about one month apart of muskmelon and watermelon
- Two plantings of tomatoes and potatoes
- One planting only of garlic, okra, bulbing onions, peas, peppers, winter squash, sweet potatoes, and pumpkins

A beneficial outcome of the Community Supported Agriculture movement, with its heavy emphasis on market farming, is the development of record-keeping and crop-planning systems geared to small-scale farmers. Enclosed are two articles from *Growing for Market*—by Richard Wiswall and Dan Kaplan—that provide a good introduction to record-keeping.

The ATTRA publication *Market Gardening: A Start Up Guide* provides additional ideas and resources for vegetable planning and record keeping. You can find this publication at our website, <http://www.attra.ncat.org/attra-pub/marketgardening.html>, or order a free printed copy by calling 800-346-9140.

References

1) Anderson, Craig. 2002. Personal communication. Fayetteville, AR.

2) Marr, Charles W. and Ned Tisserat. 1995. Sweet Corn. Kansas State University Commercial Vegetable Production Bulletin MF-1106. 8 p.

Enclosures

Anon. 2000. Recommended planting dates by month and week. Southern Exposure Seed Exchange Catalog. 1 p.

Kaplan, Dan. 1999. Use spreadsheets for all your records. Growing for Market. February. p. 8–10.

Kaplan, Dan. 2001. Greenhouse Schedule 2000. Presentation at Advanced Organic Vegetable Production for Small and Large Scale Growers workshop. Jefferson City, MO, February 14–16. 2 p.

Kaplan, Dan. 2001. Field Planting Plan 2000. Presentation at Advanced Organic Vegetable Production for Small and Large Scale Growers workshop. Jefferson City, MO, February 14–16. 4 p.

Wiswall, Richard. 1999. Better records=more profit. Growing for Market. February. p. 1, 4–7.

The electronic version of **Scheduling Vegetable Plantings for Continuous Harvest** is located at:
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